



SEQUENCE LISTING

<110> Iversen, Patrick L.

<120> Sense Antiviral Compound and Method for
Treating ssRNA Viral Infection

<130> 50450-8055.US00

<140> 10/567,470

<141> 2004-08-06

<150> PCT/US2004/025401

<151> 2004-08-06

<150> US 60/493,990

<151> 2003-08-07

<160> 106

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 40

<212> RNA

<213> St. Louis encephalitis virus

<220>

<221> misc_feature

<222> 36, 37, 38, 39

<223> n = A,T,C or G

<400> 1

gaaaucuguu uccucuccgc ucaccgacgc gaacaunnnc

40

<210> 2

<211> 40

<212> RNA

<213> Japanese encephalitis virus

<400> 2

caacgauacu aagccaagaa guucacacag auaaacuucu

40

<210> 3

<211> 40

<212> RNA

<213> Murray Valley encephalitis virus

<400> 3

aaacaauacu gagaucggaa gcucacgcag augaacgucu

40

<210> 4

<211> 40

<212> RNA

<213> West Nile virus

<400> 4		
aaacacuacu aaguuuuguca gcucacacag gcgaacuacu		40
<210> 5		
<211> 40		
<212> RNA		
<213> West Nile virus		
<400> 5		
uugcagacca augcaccuca auuagcacac aggauuuuacu		40
<210> 6		
<211> 40		
<212> RNA		
<213> Dengue type 2 virus		
<400> 6		
caaagaaucu gucuuugucg guccacguag acuaacaacu		40
<210> 7		
<211> 40		
<212> RNA		
<213> Hepatitis C virus		
<400> 7		
gugauucaug guggaguguc gcccccua ca gggggcuggc		40
<210> 8		
<211> 40		
<212> RNA		
<213> Polio virus		
<400> 8		
gugggcccucu ggggugggua caaccccaga gcuguuuuuaa		40
<210> 9		
<211> 40		
<212> RNA		
<213> Human enterovirus A		
<400> 9		
gugggcccug ugugugggua caacccacag gcuguuuuuaa		40
<210> 10		
<211> 40		
<212> RNA		
<213> Human enterovirus B		
<400> 10		
aaugggcccug ugugugggaa caacccacag gcuguuuuuaa		40
<210> 11		
<211> 40		
<212> RNA		
<213> Human enterovirus C		

<400> 11		
ggggccucu gggguggggag caaccccaga gcuguuuuuaa		40
<210> 12		
<211> 40		
<212> RNA		
<213> Human enterovirus D		
<400> 12		
ggggccucu gggguggggaa caaccccaga gcuguuuuuaa		40
<210> 13		
<211> 40		
<212> RNA		
<213> Human enterovirus E		
<400> 13		
agaguacaac acccaguggg ccuguugggu gggAACACUC		40
<210> 14		
<211> 40		
<212> RNA		
<213> Bovine enterovirus		
<400> 14		
gugggccccca ggggugggua caaccccccag gcuguuuuuaa		40
<210> 15		
<211> 40		
<212> RNA		
<213> Human rhinovirus 89		
<400> 15		
auggguggag ugagugggaa caacccacuc ccaguuuuuaa		40
<210> 16		
<211> 40		
<212> RNA		
<213> Human rhinovirus B		
<400> 16		
ccaauggguc gaauggguggg auacccaucc gcuguuuuuaa		40
<210> 17		
<211> 40		
<212> RNA		
<213> Foot-and-mouth disease virus		
<400> 17		
guuggcgugc uagagaugag acccuagugc ccccuuucaa		40
<210> 18		
<211> 40		
<212> RNA		
<213> Hepatitis A virus		
<400> 18		

ccaagaggga cuccggaaau ucccgagac cccucuugaa	40
<210> 19	
<211> 40	
<212> RNA	
<213> Feline calicivirus	
<400> 19	
gaagcucaga guuugagaca uugucucaa uuuuuuuuac	40
<210> 20	
<211> 40	
<212> RNA	
<213> Canine calicivirus	
<400> 20	
gagcucgaga gagcgauggc agaagccau ucuauuaac	40
<210> 21	
<211> 40	
<212> RNA	
<213> Porcine enteric calicivirus	
<400> 21	
gcccaaauagg caacggacgg caauuagcca ucacgaucac	40
<210> 22	
<211> 40	
<212> RNA	
<213> Calicivirus strain NB	
<400> 22	
aagaaaagug aaagucacua ucucucuaua auuaaaucac	40
<210> 23	
<211> 40	
<212> RNA	
<213> Norwalk virus	
<400> 23	
agcaguagga acgacgucuu uugacgccau cauauucac	40
<210> 24	
<211> 40	
<212> RNA	
<213> Hepatitis E virus	
<400> 24	
ugaugccagg agccuuaua aacugauggg ccuccauggc	40
<210> 25	
<211> 40	
<212> RNA	
<213> Rubella virus	
<400> 25	
auggaaugg gaguccuaag cgagguccga uagcuuccau	40

<210> 26		
<211> 40		
<212> RNA		
<213> SARS coronavirus TOR2		
<400> 26		
agguugguug gcuuuuccug gguagguaaa aaccuaauau		40
<210> 27		
<211> 40		
<212> RNA		
<213> Porcine epidemic diarrhea virus		
<400> 27		
aaaagagcua acuauccgua gauagaaaaau cuuuuuuaagu		40
<210> 28		
<211> 40		
<212> RNA		
<213> Transmissible gastroenteritis virus		
<400> 28		
aagagauuaa gccacgcuac acucacuuua cuuuaaaaagu		40
<210> 29		
<211> 40		
<212> RNA		
<213> Bovine coronavirus		
<400> 29		
ucagugaagc gggaugcacg cacgcaaauc gcucgcaauc		40
<210> 30		
<211> 40		
<212> RNA		
<213> Human coronavirus 229E		
<400> 30		
aagcaacuuu ucuaucugua gauagauaag guacuuuaagu		40
<210> 31		
<211> 40		
<212> RNA		
<213> Murine hepatitis virus		
<400> 31		
agaguugaga gggauacguac ggacgccaau cacucuuaua		40
<210> 32		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		

<221> misc_feature		
<222> 2, 3		
<223> n = A,T,C or G		
<400> 32		
gnngatgttc gcgtcggtga		20
<210> 33		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 33		
gtcggtgagc ggagaggaaa c		21
<210> 34		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 34		
agaagtttat ctgtgtgaac		20
<210> 35		
<211> 22		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 35		
ctgtgtgaac ttcttggctt ag		22
<210> 36		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 36		
agacgttcat ctgcgtgagc		20
<210> 37		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		

<223> synthetic oligomer		
<400> 37		
gttcatctgc gtgagcttcc g		21
<210> 38		
<211> 22		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 38		
agttagttcgc ctgtgtgagc tg		22
<210> 39		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 39		
gtgagctgac aaacttagta g		21
<210> 40		
<211> 22		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 40		
agtaaaatcct gtgtgctaatt tg		22
<210> 41		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 41		
gtgctaattg aggtgcattt g		20
<210> 42		
<211> 22		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		

<400> 42	
agttgttagt ctacgtggac cg	22
<210> 43	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 43	
tacgtggacc gacaaagaca g	21
<210> 44	
<211> 16	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 44	
gccagccccc tgatgg	16
<210> 45	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 45	
atgggggcga cactccacca tg	22
<210> 46	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 46	
ttaaaaacagc tctggggttg	20
<210> 47	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 47	
gttgtaccca ccccaagagg	19

<210> 48		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 48		20
ttaaaaacagc ctgtgggttg		
<210> 49		
<211> 19		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 49		19
gttgtaccca cccacaggg		
<210> 50		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 50		20
ttaaaaacagc ctgtgggttg		
<210> 51		
<211> 18		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 51		18
gttgtccca cccacagg		
<210> 52		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 52		20
ttaaaaacagc tctggggttg		
<210> 53		

<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 53	
gttgctccca ccccagagg	19
<210> 54	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 54	
ttaaaaacagc tctggggttg	20
<210> 55	
<211> 18	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 55	
ttgttcccac cccagagg	18
<210> 56	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 56	
gagtgttccc acccaacagg	20
<210> 57	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 57	
aacaggccca ctgggtttg	20
<210> 58	
<211> 20	
<212> DNA	

<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 58	
ttaaaaacagc ctgggggttg	20
<210> 59	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 59	
gttgtaccca cccctgggg	19
<210> 60	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 60	
ttaaaaactgg gagtgggttg	20
<210> 61	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 61	
gttgttccca ctcactccac	20
<210> 62	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 62	
ttaaaaacagc ggatgggtat c	21
<210> 63	
<211> 20	
<212> DNA	
<213> Artificial Sequence	

<220>		
<223> synthetic oligomer		
<400> 63		
gatgggtatc ccaccattcg		20
<210> 64		
<211> 19		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 64		
ttgaaagggg gcactaggg		19
<210> 65		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 65		
agggtctcat ctctagcacg		20
<210> 66		
<211> 19		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 66		
ttcaagaggg gtctccggg		19
<210> 67		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 67		
gaatttccgg agtccctctt g		21
<210> 68		
<211> 22		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		

<400> 68	
gtaaaaagaaa tttgagacaa tg	22
<210> 69	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 69	
gtctcaaact ctgagcttc	19
<210> 70	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 70	
gttaatgaga aatggcttct g	21
<210> 71	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 71	
cttctgccat cgctctctcg ag	22
<210> 72	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 72	
tgatcgta tggctaattg	20
<210> 73	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 73	

aattgccgtc cgttgcctat tg	22
<210> 74	
<211> 23	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 74	
gtgatttaat tatagagaga tag	23
<210> 75	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 75	
ttatagagag atagtgactt tc	22
<210> 76	
<211> 23	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 76	
gtgaatgtat atggcgtcaa aag	23
<210> 77	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 77	
caaaagacgt cgttcctact g	21
<210> 78	
<211> 18	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> synthetic oligomer	
<400> 78	
gccatggagg cccatcag	18

<210> 79		
<211> 22		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 79		
atcagtttat taaggctcct gg		22
<210> 80		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 80		
atggaagcta tcggacctcg		20
<210> 81		
<211> 22		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 81		
tatcgaccc cgcttaggac tc		22
<210> 82		
<211> 23		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 82		
atattagtt ttacacctacc cag		23
<210> 83		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 83		
acccaggaaa agccaaaccaa c		21
<210> 84		
<211> 24		

<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 84		
acttaaaaag attttctatac tacg		24
<210> 85		
<211> 22		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 85		
ttttctatct acgtacggat ag		22
<210> 86		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 86		
acttttaaag taaaagtgagt g		21
<210> 87		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 87		
gtaaaagtgag tggtagcgtg g		21
<210> 88		
<211> 22		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 88		
gattgcgagc gatttgcgtg cg		22
<210> 89		
<211> 22		
<212> DNA		
<213> Artificial Sequence		

<220>		
<223> synthetic oligomer		
<400> 89		
gtgcgtgcat cccgcttcac tg		22
<210> 90		
<211> 24		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 90		
cttaagtacc ttatctatct acag		24
<210> 91		
<211> 19		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 91		
tctacagata gaaaagttg		19
<210> 92		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 92		
tataagagtg attggcgtcc g		21
<210> 93		
<211> 22		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> synthetic oligomer		
<400> 93		
tccgtacgta ccctctcaac tc		22
<210> 94		
<211> 14		
<212> DNA		
<213> Artificial Sequence		
<220>		

<223> target sequence based on virus sequence	
<400> 94	
agttagttcgc ctgt	14
<210> 95	
<211> 12	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> target sequence based on virus sequence	
<400> 95	
ctgacaaaact ta	12
<210> 96	
<211> 14	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> target sequence based on virus sequence	
<400> 96	
tcgcctgtgt gagc	14
<210> 97	
<211> 14	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> target sequence based on virus sequence	
<400> 97	
agttagttcaa actt	14
<210> 98	
<211> 13	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> target sequence based on virus sequence	
<400> 98	
agtaaattcct gtg	13
<210> 99	
<211> 14	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> target sequence based on virus sequence	

<400> 99	14
ctgtgtgcta attg	
<210> 100	
<211> 15	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> target sequence based on virus sequence	
<400> 100	15
aatcctgtgt gctaa	
<210> 101	
<211> 14	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> target sequence based on virus sequence	
<400> 101	14
agtaaatcaa ttga	
<210> 102	
<211> 14	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> target sequence based on virus sequence	
<400> 102	14
taatttaggtt gcat	
<210> 103	
<211> 14	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> target sequence based on virus sequence	
<400> 103	14
tgggggcgac actc	
<210> 104	
<211> 16	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> scramble control sequence	
<400> 104	16
cgcgaccctt gcgatg	

<210> 105
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> control sequence

<400> 105
 agtctcgact tgctacctca 20

<210> 106
 <211> 380
 <212> RNA
 <213> Hepatitis C virus

<400> 106
 gccagccccc ugauggggggc gacacuccac caugaaucac uccccuguga ggaacuacug 60
 ucuucacgca gaaagcgucu agcccauggcg uuaguauagag ugucgugcag ccuccaggac 120
 cccccccuccc gggagagcca uaguggucug cggAACCGGU gaguacacccg gaaUUGCCAG 180
 gacgaccggg uccuuucuug gauaaACCCG cucagauGCC uggagauuug ggcgugcccc 240
 cgcaagacug cuagccgagu aguguugggu cgcgaaaggc cuugugguac ugccugauag 300
 ggugcuugcg agugccccgg gaggucucgu agaccgugca ccaugagcac gaauccuaaa 360
 ccucaaagaa aaaccaaacc 380